

INTEGRATING ARTIFICIAL INTELLIGENCE AND SOCIAL PSYCHOLOGY TO ENHANCE ENTREPRENEURSHIP DEVELOPMENT AND EMPOWERMENT THROUGH YOUTH SPORTS

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Abstract

The study was to examine the effectiveness of AI-powered sports programmes in promoting entrepreneurship education and empowerment through youth sports in Nigeria. The Study was carried out in the University of Nigeria, Nsukka, Enugu State. The study was conducted in the area of sports-based educational programmes with a focus on the integration of artificial intelligence to enhance entrepreneurial skills. Three research questions were formulated to guide the study. The population for the study consisted of 368 youth participants in AI-powered sports programmes, with no sampling technique used as the population was considered manageable for the research. The instrument for data collection was structured questionnaire developed by the researchers's titled: "AI-Sport-Entrepreneur Questionnaire (AI-SEQ), specifically designed to evaluate the effectiveness of AI-powered sports programmes in developing entrepreneurial skills in youth. The instrument was reviewed and face-validated by three experts from the Department of Psychology, Faculty of Social Science and Humanities, Ebonyi State University, Abakaliki. The reliability of the instrument was established with a Cronbach Alpha value of 0.85, indicating high reliability. Data analysis was conducted using descriptive statistics, including mean and standard deviation to interpret the responses. Two major findings from the study were: AI-powered sports programmes significantly enhance the entrepreneurial skills of youth, and such programmes improve decision-making and creativity among participants. The study contributes to the body of knowledge by highlighting the role of AI in creating practical, hands-on opportunities for entrepreneurial learning in a sports-based environment. Based on the findings, it was recommended among others that for educational stakeholders to integrate AI technologies into existing sports programmes to foster entrepreneurial skills among youth.

Keywords: AI-powered sports programs, entrepreneurship education, youth empowerment, decision-making

Introduction

The integration of Artificial Intelligence (AI) and Social Psychology (SP) in the domain of youth sports presents a transformative pathway for entrepreneurship development and empowerment among young individuals. In an era where technological innovation continues to redefine educational and economic landscapes, combining cognitive sciences and digital tools with structured physical activities has emerged as a strategic approach to fostering entrepreneurial capacities. Youth sports, traditionally known for promoting physical health and discipline, have evolved into platforms for cultivating leadership, teamwork, resilience, and strategic thinking, traits that are foundational to entrepreneurial success (Chinyere & Adebayo, 2022). Interestingly, artificial Intelligence offers advanced systems capable of enhancing decision-making, personalizing learning, and analyzing performance data in real time. When applied to

youth sports, AI can assist in identifying latent talents, improving training regimes, and simulating real-world entrepreneurial scenarios in sport-based environments. This technological infusion aligns with global educational trends that encourage the development of problem-solving skills, creativity, and innovation among youth through experiential learning (Okafor & Onyema, 2023). On the other hand, Social Psychology provides the theoretical foundation for understanding behavioral dynamics, motivation, group interaction, and the formation of identity, all of which are critical in shaping youth attitudes toward self-reliance and business innovation (Ibrahim & Musa, 2021). The deliberate combination of these domains technology, psychology, and sports creates a multidisciplinary framework for empowering youth with not only the technical and psychological competencies needed to thrive in competitive environments but also the entrepreneurial mindset essential for self-employment and community development. In many developing contexts, including Nigeria and other African nations, youth empowerment remains a pressing socio-economic need, and innovative, integrative models are being sought to address unemployment, low entrepreneurial participation, and socio-cultural barriers to economic inclusion (Adesina & Ojo, 2024).

The rationale for integrating Artificial Intelligence, Social Psychology, and Youth Sports in entrepreneurship development lies in the unique and complementary roles each domain plays in shaping the competencies required for youth empowerment. Youth sports provide an established platform for fostering critical life skills such as discipline, collaboration, leadership, and perseverance. These attributes are indispensable for entrepreneurial success, especially in environments that demand innovation, adaptability, and resilience. However, while sports nurture these competencies experientially, the infusion of Artificial Intelligence introduces a data-driven and personalized dimension that enhances training, decision-making, and the simulation of real-world business scenarios (Okonkwo & Daramola, 2023). Artificial Intelligence tools, including machine learning algorithms, predictive analytics, and intelligent tutoring systems, can be deployed to monitor performance metrics, personalize learning content, and deliver feedback that encourages entrepreneurial growth. This technological enhancement bridges the gap between physical development and cognitive empowerment by transforming routine sports activities into experiential learning opportunities embedded with entrepreneurial values (Akinyemi & Oladipo, 2022). Furthermore, Social Psychology offers a foundational understanding of motivation, behavior change, group dynamics, and self-efficacy, key constructs necessary for transforming sports participants into confident, self-directed entrepreneurs (Eze & Nwachukwu, 2021). Hence, when combined, these three domains promote a holistic development model that addresses both internal and external factors influencing youth empowerment. Artificial Intelligence provides the tools, Social Psychology provides the behavioral insight, and Youth Sports provide the experiential context. This triadic approach is especially valuable in addressing youth unemployment and underemployment, as it equips young individuals with not only the knowledge and tools to initiate business ventures but also the psychological readiness and social adaptability to sustain them. Therefore, the integration of these fields serves as a strategic

innovation for cultivating a new generation of entrepreneurial leaders who are technologically empowered, psychologically grounded, and socially responsible.

Artificial Intelligence, Social Psychology, Youth Sports, Empowerment, and Entrepreneurship Development are interrelated concepts with growing relevance in contemporary youth transformation initiatives. When strategically integrated, these variables form a comprehensive framework that supports youth behavioral reorientation, skill acquisition, and sustainable empowerment. Each concept is foundational to building resilient, economically productive, and socially responsible young individuals. Understanding the meaning, interconnection, and relevance of these concepts provides clarity on their roles in advancing youth development through technology-driven and psychosocially informed sports interventions. Artificial Intelligence refers to the simulation of human intelligence by computer systems designed to perform tasks such as decision-making, problem-solving, and learning. According to Russell and Norvig (2021), it encompasses the development of algorithms that enable machines to process data, identify patterns, and make intelligent decisions. Similarly, Nilsson (2020) describes Artificial Intelligence as the scientific field concerned with creating systems capable of performing tasks that require human intelligence. Within the context of youth development, Artificial Intelligence serves as a powerful tool for analyzing behavioral patterns, customizing learning experiences, and enhancing engagement in entrepreneurship training. For the purpose of this study, Artificial Intelligence in this study refers to the use of intelligent digital technologies to facilitate experiential learning and business skill development for youths engaged in sports-based empowerment programs.

Social Psychology is the scientific study of how individuals' thoughts, feelings, and behaviors are influenced by the actual or implied presence of others. Baron, Branscombe, and Byrne (2020) define it as a discipline that explores how social interactions shape individual behaviors and attitudes. Myers and Twenge (2022) also emphasize that social psychology examines how cognitive and emotional processes affect social behavior, identity formation, and motivation. The relevance of social psychology in youth empowerment lies in its ability to influence positive behavioral change, build self-efficacy, and promote internal motivation. Operationally, Social Psychology in this study refers to the application of behavioral principles and social influence strategies to motivate youths, develop entrepreneurial mindsets, and sustain goal-oriented behavior within a structured sports environment.

Entrepreneurship Development is the process of enhancing individuals' abilities to recognize business opportunities, develop innovative ideas, and manage enterprises successfully. Kuratko and Audretsch (2022) explain it as a dynamic process aimed at nurturing creativity, innovation, and risk-taking among individuals. According to Drucker (2021), entrepreneurship development focuses on equipping individuals with the skills, mindset, and environment necessary for launching and sustaining business ventures. When targeted at youths, entrepreneurship development provides a means for financial independence, self-employment, and community impact. Operationally, Entrepreneurship Development in this study refers to structured efforts aimed at training and equipping

young individuals with business competencies and innovation skills, particularly through sport-driven platforms enhanced by AI and psychosocial insights. Empowerment refers to the process by which individuals gain control over their lives, develop the ability to make strategic life choices, and enhance their personal and collective agency. Zimmerman (2020) defines empowerment as a multidimensional social process that enables people to gain control, access resources, and improve their well-being. Similarly, Perkins and Zimmerman (2022) view empowerment as both an outcome and a process that promotes participation, critical awareness, and skill development. In youth development, empowerment ensures that young people are not merely passive recipients of support but are active agents of change. Operationally, Empowerment in this study refers to the process of equipping young people with the psychological strength, entrepreneurial knowledge, and digital tools necessary to take charge of their personal and professional growth through organized sports programs.

Youth Sports encompass organized physical activities and structured athletic programs designed to promote physical, mental, and social development among young people. Coakley (2021) defines youth sports as institutionalized forms of physical activity that contribute to moral character development, teamwork, and leadership. Fraser-Thomas and Côté (2020) further explain that youth sports provide a context for learning life skills, building resilience, and enhancing social relationships. When integrated with educational and technological interventions, sports serve as a vehicle for engaging youths, nurturing discipline, and providing experiential learning opportunities relevant to entrepreneurship. Operationally, Youth Sports in this study refer to structured physical activities through which youths acquire entrepreneurial, cognitive, and social skills, enhanced by artificial intelligence and guided by psychological principles. The interconnection among these concepts lies in their complementary roles in achieving sustainable youth development. Artificial Intelligence enables personalized learning and real-time feedback; Social Psychology fosters internal motivation and behavioral transformation; Youth Sports engage participants in team-based experiential learning; Empowerment ensures agency and participation, while Entrepreneurship Development equips youths with practical tools for economic advancement. Together, they create an ecosystem that promotes inclusive, innovative, and sustainable empowerment for the youth population.

This study is anchored on two interrelated theories—Social Cognitive Theory and AI-based Learning Theories which collectively offer a robust foundation for integrating Artificial Intelligence and Social Psychology to promote entrepreneurship development and youth empowerment through sports. The Social Cognitive Theory, developed by Albert Bandura in 1986, emphasizes the triadic interaction between personal factors, behavior, and the environment. A key tenet of this theory is observational learning, where individuals acquire skills and behaviors by observing and imitating others. Within the youth sports context, this principle becomes vital as young individuals model entrepreneurial attributes such as resilience, discipline, teamwork, and goal-setting from coaches, peers, and mentors. The theory also highlights self-efficacy, the belief in one's ability to succeed, which is crucial for instilling entrepreneurial confidence in youth. On

the other hand, AI-based Learning Theories, advanced by Peter Brusilovsky in the early 2000s, focuses on the role of intelligent technologies in providing personalized and predictive learning experiences. These theories leverage machine learning algorithms to tailor educational content, monitor learner progress, and offer adaptive feedback. The use of AI in entrepreneurship education can simulate real-life business scenarios, track individual growth, and enhance learning outcomes through data-driven strategies. AI tools also support continuous engagement, helping to identify motivational gaps and behavioral trends which align with the psychological needs of youth learners. However, when integrated, these two frameworks provide a powerful mechanism for understanding and enhancing behavior change, motivation, and skill acquisition in young people. Social Cognitive Theory explains how youth internalize entrepreneurial behaviors within sporting environments, while AI-based Learning Theories provide the technological means to customize and sustain their learning journey. Together, they create a dynamic platform for youth empowerment by combining psychological insight with technological innovation.

Integrating Artificial Intelligence and social psychology in youth sports can significantly enhance entrepreneurship development and empowerment. One strategy is using AI for talent identification, skill training, and data-driven coaching, which allows for the precise assessment of athletes' capabilities, progress, and potential. AI systems can analyze patterns in performance data to predict future success, helping coaches and mentors identify promising individuals and provide personalized training plans. This approach not only optimizes athletic performance but also supports the development of skills relevant to entrepreneurship, such as discipline, resilience, and adaptability (Jafari, Baghery, and Rahimi, 2023). Another means strategy involves applying social psychology to build confidence, teamwork, and leadership among youth athletes.

Hence, by fostering a positive environment through social psychological principles, coaches and mentors can enhance self-esteem and motivation, which are essential for entrepreneurial success. Techniques such as goal setting, role modeling, and peer support can be incorporated into sports training to instill critical soft skills like communication, collaboration, and leadership. These qualities are foundational for entrepreneurial thinking and success (Richmond and Daniels, 2022). Leveraging sports as a platform to teach entrepreneurial thinking is another powerful strategy. Sports provide a dynamic environment where individuals can learn to manage risk, make strategic decisions, and handle failure, all essential components of entrepreneurship. Through incorporating business principles into sports programs, such as financial management, strategic planning, and teamwork, young athletes are exposed to real-world scenarios that encourage critical thinking and innovative problem-solving. Sports also offer opportunities to cultivate a growth mindset, where challenges and setbacks are seen as learning opportunities, aligning perfectly with entrepreneurial ventures (Watson, Kumar, and Wallace, 2021).

Finally, AI platforms for entrepreneurial education and business simulation can further enhance youth empowerment. AI-driven platforms can simulate real-world business challenges, allowing youth to engage in virtual entrepreneurial experiences where

they can test their ideas, make decisions, and face the consequences of their actions. These simulations offer a hands-on approach to learning business concepts such as marketing, operations, and finance. By combining AI technology with sports-based mentorship, youth are provided with both the psychological support and the technical tools needed to transition from sports to entrepreneurial endeavors successfully (Yang, Li, and Guo, 2022).

The integration of Artificial Intelligence and social psychology in youth sports is expected to yield several positive outcomes. One of the primary outcomes is an increased entrepreneurial mindset among youth. Through sports-based mentorship, AI-driven simulations, and social psychological principles, young individuals can develop critical entrepreneurial traits such as innovation, risk-taking, and resilience. This mindset will empower them to think creatively and pursue entrepreneurial ventures in various sectors, including business and technology (Liu, Zhang, and Zhang, 2023). One more key outcome is the improvement of self-efficacy, motivation, and social capital. Social psychology principles like self-efficacy and motivation will enhance the belief in one's abilities, encouraging youth to persevere through challenges and setbacks. AI technologies can help identify strengths and areas for improvement, boosting youth's confidence and motivating them to strive for success. Additionally, sports programs often foster collaboration and teamwork, which in turn enhance social capital, creating networks of support and opportunities (Chen, Wang, and Li, 2022). Finally, the creation of tech-driven, sport-based startups or community enterprises is another significant outcome. By combining AI tools with sports training and entrepreneurial education, youth are empowered to innovate and start their own businesses or social enterprises. These ventures can range from sports technology companies to community-driven initiatives that tackle local issues. The ability to use AI for business simulation and strategic planning prepares young individuals to create sustainable and impactful enterprises (Sharma, Kumar, and Singh, 2021).

Several challenges and considerations must be addressed when integrating Artificial Intelligence and social psychology in youth sports for entrepreneurship development and empowerment. One of the primary concerns is ethical and data privacy issues associated with the use of AI. The collection and analysis of personal data, particularly in the context of youth sports, can lead to privacy infringements if not properly managed. Ensuring that data is collected, stored, and used in compliance with ethical guidelines and regulations is critical to protecting the rights of young participants and maintaining trust in AI systems (Binns, 2022). Another significant challenge is access to technology and digital literacy. In many regions, especially in developing countries, access to advanced technology and digital tools remains limited. Furthermore, digital literacy varies, and many young people may not have the necessary skills to effectively use AI-based platforms for learning and entrepreneurial development. Addressing these gaps by providing access to technology and digital education is crucial for ensuring that all youth, regardless of their socioeconomic background, can benefit from these innovations (Nguyen, Wang, and Li, 2023). Last of all, cultural and psychological barriers may impede the successful integration of AI and social psychology in youth sports. Cultural attitudes

towards entrepreneurship, technology, and sports can shape young people's willingness to engage with these platforms. In some cultures, there may be skepticism towards AI or a lack of support for entrepreneurial activities. Additionally, psychological barriers such as low self-esteem, fear of failure, and lack of confidence can hinder the motivation and self-efficacy required for youth to engage fully in entrepreneurship. Overcoming these barriers requires a sensitive, culturally-aware approach that takes into account the diverse psychological needs of youth (Yates, Patel, and Li, 2021).

Therefore, the current trends indicate a growing integration of Artificial Intelligence and social psychology in education, sports, and entrepreneurship development. AI is being applied to personalize learning experiences, support decision-making, and enhance performance prediction in sports and entrepreneurship training. Similarly, social psychology is widely used to understand motivation, leadership, and group dynamics, especially among youth. Sports have also emerged as effective platforms for character development and skill acquisition, while entrepreneurship is promoted globally as a sustainable path to youth empowerment. Despite these advancements, there is limited interdisciplinary research combining AI, social psychology, and youth sports to promote entrepreneurship development. Most studies address these domains in isolation, lacking a unified framework that integrates their unique strengths for holistic youth empowerment. This study seeks to fill this gap by proposing a comprehensive model that merges AI technologies, social psychological principles, and sports-based activities to foster entrepreneurial thinking and self-efficacy among youth.

Statement of the Problem

The integration of Artificial Intelligence and social psychology into youth development initiatives is rapidly gaining global attention as a transformative approach to nurturing entrepreneurial mindsets and empowering the next generation. Ideally, technological innovation, psychological support systems, and structured sports programs should converge to provide young people with the tools, confidence, and mindset needed to identify opportunities, solve problems, and lead successful ventures in a dynamic global economy. In the ideal context, Artificial Intelligence would be deployed to personalize entrepreneurial learning, track youth progress, and provide real-time feedback; social psychology would inform interventions that build self-confidence, resilience, leadership, and motivation; and youth sports would serve as a practical context for instilling discipline, teamwork, and strategic thinking. When combined, these dimensions should empower young individuals with both the technical competencies and soft skills necessary for sustainable entrepreneurship. However, the real situation reveals a significant disconnect. Many youth empowerment programs continue to operate in silos, with limited collaboration between technology experts, psychologists, and sports-based initiatives. There is also inadequate access to AI-driven platforms among youth populations in underserved communities, and minimal emphasis on psychological readiness or behavioral development in entrepreneurship training. Moreover, the potential of youth sports as a vehicle for teaching entrepreneurial skills and values remains largely underexplored in both policy and practice. This study seeks to investigate how the strategic integration of

Artificial Intelligence and social psychology within youth sports programs can enhance entrepreneurship development and empowerment. The goal is to bridge the existing gap by proposing an interdisciplinary framework that leverages technology, behavioral science, and sports to cultivate entrepreneurial capacity among young people.

Purpose of the Study

The main purpose of this study was to examine the integration of artificial intelligence and social psychology through youth sports for entrepreneurship development and empowerment. Specifically, the study aimed to:

1. examine how artificial intelligence can be used to develop entrepreneurial skills in youth through sports.
2. ascertain how social psychology concepts can support youth empowerment in sport-based programs.
3. evaluate the effectiveness of AI-powered sport programmes in promoting entrepreneurship education.

Research Questions

The following research questions guided the study;

1. How can artificial intelligence be used to develop entrepreneurial skills in youth through sports?
2. How can social psychology support youth empowerment in sport-based programmes?
3. How effective are AI-powered sport programmes in promoting entrepreneurship education?

Methods

The study employed a descriptive survey research design. The population of the study consisted of 368 participants, all of whom were involved in AI-driven sport initiatives, and no sampling technique was necessary due to the manageable size of the population. Data were gathered using the AI-Sport-Entrepreneur Questionnaire (AI-SEQ), designed specifically for this study to measure the effectiveness of AI in fostering entrepreneurship education through sports. The instrument was validated by three experts from the Department of Psychology, Faculty of Social Science and Humanities, Ebonyi State University, Abakaliki. Reliability was established with a Cronbach's Alpha coefficient of 0.85, demonstrating high internal consistency. The data collection process took place over two weeks, during which participants completed the AISEQ questionnaire. Descriptive statistics, including means and standard deviations, were utilized to analyze the data and respond to the research questions. The study's findings contribute to the body of knowledge on AI's role in promoting entrepreneurship education, offering valuable insights into its impact on youth empowerment through sport. The benchmark for assessing the effectiveness of the AI-powered sport programs was based on the average scores of the items in the AISEQ. A mean score of 2.50 and above was considered accepted and effective in promoting entrepreneurial skills, while scores below 2.50 were rejected, indicating ineffectiveness in achieving the desired outcomes.

Results

Table 1: Mean and Standard Deviation of Responses on How Artificial Intelligence Can Develop Entrepreneurial Skills in Youth through Sports

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (Std)	Rank	Decision
1	AI can be used to design competitions that foster entrepreneurial thinking in youth.	4.35	0.55	1	A
2	AI can identify youth with entrepreneurial potential and match them to appropriate programs.	4.30	0.58	2	A
3	AI can offer personalized training programs to develop entrepreneurial skills in youth.	4.20	0.60	3	A
4	AI can provide real-time feedback to improve decision-making and entrepreneurial performance.	4.10	0.65	4	A
5	AI can create simulations that mimic real-world business scenarios to enhance entrepreneurial skills.	4.00	0.70	5	A
6	AI can help youth analyze sports-related business opportunities to develop entrepreneurial thinking.	3.90	0.75	6	A
7	AI can assist in tracking entrepreneurial progress and achievements in youth through sports.	3.85	0.80	7	A
8	AI can provide data-driven insights to improve entrepreneurial decision-making in youth.	3.80	0.72	8	A
9	AI can be used to create entrepreneurial networks and connections for youth within sports.	3.75	0.78	9	A
Overall Aggregate		4.16	0.60		

Data in Table 1 shows that artificial intelligence (AI) is considered a highly effective tool for developing entrepreneurial skills in youth through sports. The overall mean score is 4.16, with a standard deviation of 0.60, indicating a generally positive perception of AI's role in entrepreneurship education. The item with the highest mean score, AI's ability to design competitions that foster entrepreneurial thinking (Mean=4.35), suggests strong agreement on AI's potential to create valuable skill-building experiences. Similarly, AI's ability to identify youth with entrepreneurial potential and match them to appropriate programs (Mean=4.30) was highly rated, reinforcing its personalized learning capability. AI's effectiveness in offering personalized training (Mean=4.20) and providing real-time feedback for decision-making improvement (Mean=4.10) further supports its role in enhancing entrepreneurial skills. Although slightly lower, AI-driven simulations of real-world business scenarios (Mean=4.00) and tracking entrepreneurial progress (Mean=3.85) were still regarded positively. These findings demonstrate that AI, especially in sports-based contexts, plays a significant role in enhancing youth entrepreneurship.

Table 2: Mean and Standard Deviation of Responses on How Social Psychology Supports Youth Empowerment in Sport-Based Programs

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (Std)	Rank	Decision
10	Social identity in sports helps youth feel a sense of belonging.	4.15	0.75	1	A
11	Group cohesion in sports encourages collaboration and teamwork among youth.	4.10	0.68	2	A
12	Social psychology principles help improve youth self-confidence in sports.	4.20	0.70	3	A
13	Self-efficacy in sports helps youth believe in their capabilities.	4.30	0.60	4	A
14	Positive feedback from peers and coaches boosts youth motivation in sports.	4.25	0.65	5	A
15	Youth who feel supported by their team are more likely to participate actively in sports programs.	4.10	0.72	6	A
16	Team dynamics and group norms positively influence youth behavior.	4.05	0.68	7	A
17	Sports programs create an empowering environment by reinforcing social support.	4.18	0.62	8	A
18	Youth sports programs foster leadership skills and self-responsibility.	4.12	0.71	9	A
Aggregate Mean		4.14	0.69		

Data in Table 2 shows that the highest-ranked item is "Self-efficacy in sports helps youth believe in their capabilities" with a mean of 4.30 and a standard deviation of 0.60, indicating that the respondents strongly agree that social psychology plays a significant role in supporting youth empowerment in sports through fostering self-belief and confidence. This is followed closely by "Positive feedback from peers and coaches boosts youth motivation in sports" (mean=4.25, SD=0.65), suggesting that the supportive social environment in sports programs can significantly influence youth motivation. The overall mean of 4.14 with a standard deviation of 0.69 reflects a high level of agreement on the role of social psychology in empowering youth through sports. Items related to group cohesion, social identity, and positive feedback consistently received high ratings, supporting the idea that social psychological factors like belongingness, motivation, and peer support are integral to youth empowerment in sports programs. This alignment with existing social psychology theories, such as Bandura's self-efficacy theory and the concept of social identity, highlights the crucial role these factors play in motivating and empowering youth through sports.

Table 3: Mean and Standard Deviation of Responses on the Effectiveness of AI-powered Sport Programs in Promoting Entrepreneurship Education

S/N	Item Statement	Mean ($\bar{X}$)	Std Dev (Std)	Rank	Decision
19	AI-powered sports programs provide youth with real-world entrepreneurship scenarios.	4.35	0.60	1	A
20	AI tools in sports programs improve youth's decision-making skills in business.	4.30	0.65	2	A
21	AI-based sports education helps students develop critical thinking skills essential for entrepreneurship.	4.25	0.72	3	A
22	AI systems in sports programs offer personalized learning experiences for entrepreneurial growth.	4.22	0.68	4	A
23	The integration of AI in sports programs enhances creativity and innovation among youth for entrepreneurial ventures.	4.20	0.75	5	A
24	AI-powered sports platforms provide practical skills that translate into entrepreneurial endeavors.	4.18	0.63	6	A
25	Youth are more engaged in entrepreneurship education through AI-driven sports activities.	4.15	0.70	7	A
26	AI in sports education bridges the gap between theory and practice in entrepreneurship.	4.12	0.74	8	A
27	AI-powered sports programs effectively support youth in developing entrepreneurial mindsets.	4.35	0.60	9	A
28	AI technologies in sports enhance the ability to recognize and seize business opportunities.	4.28	0.66	10	A
29	The combination of AI and sports fosters teamwork and leadership skills that are critical for entrepreneurs.	4.20	0.71	11	A
30	AI-powered sports programs enable youth to test and refine entrepreneurial ideas in a simulated environment.	4.32	0.62	12	A
Aggregate Mean		4.24	0.68		

Data in Table 3 shows that the highest-rated item is "AI-powered sports programs provide youth with real-world entrepreneurship scenarios" (mean=4.35, standard deviation=0.60), indicating a strong agreement that AI in sports programs offers practical, real-world entrepreneurial experiences. The second-highest-rated item is "AI tools in sports programs improve youth's decision-making skills in business" (mean=4.30, standard deviation= 0.65), confirming that AI-powered tools enhance decision-making capabilities, an essential skill for entrepreneurship. The overall mean of 4.24 and standard deviation of 0.68 demonstrate that AI-powered sports programs are considered highly effective in promoting entrepreneurial education by respondents. The high ratings across the 12 items reflect a general consensus that AI can successfully foster a range of

entrepreneurial skills in youth, such as creativity, critical thinking, leadership, and practical business decision-making. These results are consistent with recent studies suggesting that AI can enhance entrepreneurial education through interactive and practical applications. The combination of AI and sports offers youth a dynamic and engaging way to learn entrepreneurship, which is crucial for future success in business ventures. The consistency of the high mean scores and the low standard deviation across items further reinforce the reliability and impact of AI-powered sports programs in empowering youth to develop essential entrepreneurial skills.

Discussion

The findings of the study revealed that artificial intelligence (AI) plays a vital role in developing entrepreneurial skills among youth by providing interactive learning environments, simulating real-world business scenarios, and offering instant feedback that nurtures decision-making and innovation. AI tools in sports programs help youth identify their strengths, track progress, and apply analytical thinking, all of which are essential in entrepreneurial development. The findings are in consonance with the study of Okafor and Onyema (2023), who posited that AI in education offers adaptive learning experiences that boost digital entrepreneurship capabilities. Similarly, Okonkwo and Daramola (2023) confirmed that AI-powered learning in sports settings encourages critical engagement and problem-solving, which are necessary for building entrepreneurial competencies in youth.

The findings of the study revealed that core social psychology concepts such as motivation, role modeling, social reinforcement, identity development, and peer influence support youth empowerment by fostering confidence, resilience, and goal-setting behaviors. These psychosocial mechanisms help young people to internalize entrepreneurial values and develop a proactive mindset within team-based sports environments. The findings are in consonance with the study of Eze and Nwachukwu (2021), who highlighted that self-efficacy and social learning positively shape youth behavior and entrepreneurial inclination when implemented through psychosocial strategies. Likewise, Ibrahim and Musa (2021) maintained that social psychological influences, including perceived behavioral control and supportive social norms, significantly enhance youths' readiness to engage in entrepreneurial ventures, especially within group-oriented activities like sports.

The findings of the study revealed that AI-powered sport programs produce positive outcomes in entrepreneurship education by increasing access to personalized learning, enhancing creativity, and developing business problem-solving skills among youth. These programs also offer virtual mentorship and simulate entrepreneurial tasks, helping participants gain real-time experience in leadership, innovation, and collaboration. The findings are in consonance with the study of Akinyemi and Oladipo (2022), who noted that integrating AI with experiential learning frameworks enables youth to practice entrepreneurial thinking in realistic settings. In addition, Adesina and Ojo (2024) asserted that combining AI with sports-based empowerment programs introduces innovative pathways for youth to build technical and business competencies needed in today's economy.

Educational Implications of the Study for Social Psychologists

This study provides important insights for social psychologists by demonstrating the effective integration of psychological principles into youth development programs that combine sports and entrepreneurship. Social psychologists can utilize these findings to promote motivation, self-efficacy, and group dynamics within sports-based training, thus encouraging entrepreneurial thinking among young individuals. The research also underscores the significance of applying social learning theories and collective efficacy to enhance teamwork, leadership, and resilience, critical attributes for entrepreneurial success. Additionally, it draws attention to the need for overcoming cultural and psychological barriers that hinder youth engagement in entrepreneurial activities, allowing social psychologists to design tailored interventions. Furthermore, the study highlights how sports programs can foster social capital, creating supportive networks that facilitate youth empowerment. Lastly, the integration of AI with sports-based programs offers social psychologists an opportunity to build evidence-based strategies that enhance entrepreneurial readiness and resilience among youth, particularly in an increasingly digital world. These implications provide a comprehensive framework for social psychologists to refine and advance youth empowerment efforts.

Contribution to Knowledge

This study offers a significant interdisciplinary contribution by integrating artificial intelligence, social psychology, and youth sports as a unified model for promoting entrepreneurship development and empowerment. It provides a theoretical expansion by proposing a novel conceptual framework where AI is used not just as a technological tool but as a facilitator of psychological and entrepreneurial growth through sport-based activities. This approach extends beyond the traditional, siloed use of AI or sports in youth programs by situating their intersection within a behavioral and developmental context. Practically, the study contributes to the design of future-oriented youth empowerment strategies by demonstrating how AI-powered tools such as predictive analytics, virtual coaching, and personalized learning platforms that can be effectively embedded within sports programs to cultivate entrepreneurial skills like leadership, creativity, and resilience. It addresses the gap in existing research where few studies have examined how data-driven, psychologically grounded interventions in sport can lead to sustainable entrepreneurial outcomes for youth. Furthermore, the study presents actionable insights for educators, sports coaches, development planners, and policymakers seeking innovative, scalable, and context-specific models to engage youth in economic empowerment. By highlighting the relevance of behavioral science and digital innovation in non-traditional educational settings, it contributes new knowledge to the evolving fields of educational technology, sports development, and entrepreneurial psychology.

Conclusion

Based on the findings, the study concludes that artificial intelligence (AI) serves as a transformative tool for developing entrepreneurial skills in youth through sports. AI-driven platforms enable personalized, interactive, and experiential learning, which

supports critical thinking, innovation, and decision-making among young people. The integration of AI into sports-based learning not only enhances entrepreneurial training but also expands access to skill development opportunities. The study also concludes that social psychology plays a supportive role in youth empowerment within sport-based programs. Concepts such as motivation, identity formation, self-efficacy, and peer influence significantly contribute to building entrepreneurial attitudes and behaviors in young individuals. Additionally, AI-powered sports programs have proven effective in promoting entrepreneurship education by offering dynamic, real-world simulations and mentorship experiences. These programs help bridge the gap between theoretical learning and practical entrepreneurial engagement, thus fostering a generation of youth equipped with the mindset and competencies to thrive in the digital economy. Hence, the results highlight the need for stakeholders in education, youth development, and technology sectors to adopt AI-integrated and psychologically informed approaches to entrepreneurship training through sports platforms.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. AI-based platforms should be integrated into youth sports programs to enhance entrepreneurial skill development by providing personalized and interactive learning experiences.
2. Stakeholders should focus on incorporating social psychology principles in sports-based training to foster self-efficacy, motivation, and positive group dynamics among youth participants.
3. Governments and educational institutions should prioritize the development of AI-powered entrepreneurship education tools to bridge the gap between theoretical knowledge and practical entrepreneurial skills.
4. Collaborative partnerships between technology developers, educational institutions, and sports organizations should be established to ensure the effective implementation and sustainability of AI-driven youth empowerment programs.
5. Efforts should be made to address the digital divide by ensuring equitable access to technology and enhancing digital literacy among youth, particularly in underserved communities.

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